

LCD Fish/Depth Finder

User Manual



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Dear Customer:

Thank you for choosing Lilliput's LCD fish finder. This product adopts high-performance embedded computer hardware. It is designed for operations under relatively harsh marine environments and featuring water prove, damp prove, corruption protection, wide voltage range protection etc. The delicately optimized design meets the requirements of all users in its applications to various conditions and occasions. Lilliput aims to server our customer with its excellent quality and exquisite manufacturing technology.

We encourage you to read this installation and operations carefully in order to get full benefit from all the features and application of this product.

Notice:

- Do not power on the equipment when the transducer is expose to the air. It might cause the damage to the transducer.
- Install the transducer according to the instruction. Do not bend, twist, pull or press the cable of the transducer.
- The extension cable needs to put inside the seal terminal box. The cable of the transducer is not allowed to touch the surface of the boat.
- Once the equipment's power has been put into the "on" position do not switch the computer's power to the "off" position until the computer is fully booted.
- Please make sure that the power voltage setting has been adjusted to the standard voltage value of the location where the product is being used.
- Before using this product, please first make sure that all external wires and power adapters have been correctly connected. If you suspect any defects, please contact your sales agent or factory personnel immediately.
- Dust, humidity and dramatic temperature changes will affect the usage life of this computer. Please keep the machine away from these hazards.
- In cleaning the units do not use chemical detergents. Remove dust with a soft cloth to ensure brightness.

Warnings:



High Voltage Circuit! Disassembly and repair of device should only be performed by authorized service personal.



Power off the device from the plane immediately if there is water leaking into the equipment. Continuous using the equipment might causes short circuit. Please contact our service under those circumstances.



Do not attempt to modify or repair the original equipment. It may cause the damage of the precious electronic components inside the device.



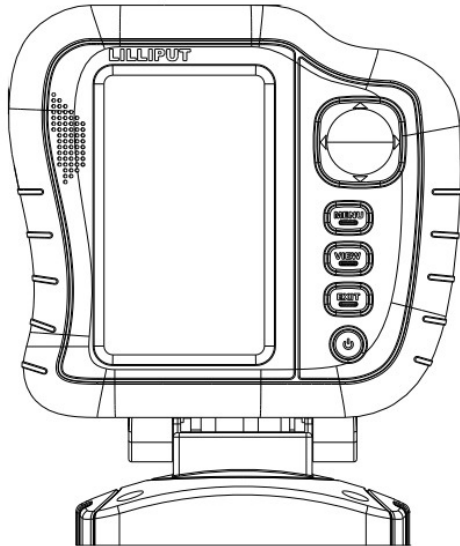
Power off the device from the plane immediately if there is fire or smoke around. Continuous using the equipment might causes short circuit. Please contact our service under those circumstances

Contents

1. Introduction.....	3
2. Specification.....	3
2-1. Functions.....	3
2-2. Parameter.....	4
3. Installation.....	4
3-1. Installation Summary.....	4
3-2. Whole Device Installation.....	5
3-3. Main Device Installation.....	6
3-4. Transducer Installation.....	6
3-5. Device Cable Interfaces.....	8
4. Display Windows.....	9
4-1. Title Screen.....	9
4-2. Sonar View.....	9
4-3. Sonar Zoom View.....	11
4-4. Dual Sonar View.....	12
4-5. Big Digital View.....	13
4-6. Circular View.....	14
4-7. System Status.....	15
5. Key Button Functions.....	15
6. The Menu System.....	17
6-1. Main MENU.....	17
6-2. Detailed MENU.....	18
6-3. Brightness adjustment.....	21
7. PARAMETER.....	21
8. STANDARD ACCESSORIES.....	22

1. Introduction

Your fishing system user interface is easy to use. A combination of menu, keys, different views, and situation-specific, customizable menus allows you to control the color on display. Refer to the following illustration, and see functions, views and menu systems for detail information.



- 1. 4-WAY Cursor Control
- 2. MENU
- 3. VIEW
- 4. EXIT
- 5. POWER
- 6. Screen

2. Specification

2-1. Functions:

- ◆ 4.3" TFT LCD (resolution 480x320);
- ◆ Composed of multi-color multi-level waveform is more delicate;
- ◆ Manual adjustment range, the screen displays the waveform will not break;
- ◆ Automatic underwater range and automatic identification without manual intervention;
- ◆ pause screen brush map, move the cursor measurement of arbitrary target location;
- ◆ Any manually set the display range up and down range;
- ◆ User to adjust the screen split ratio;
- ◆ Data recording and playback;
- ◆ High sensitivity gain and the gain in shallow water, clear bottom echo detection;
- ◆ Multiple alarm modes: depth, voltage, fish, temperature;
- ◆ Intelligent algorithm for more accurate identification of fish flesh, and a visual display;
- ◆ Setting display: contour, windows, real-time window, color, background color, light;
- ◆ A variety of protective measures: overvoltage, over current protection, reverse polarity protection;
- ◆ The whole machine adopts modular design, stability, reliability, default settings are not lost;
- ◆ Silicone flexible and reliable touch of a button, the new soft keyboard functionality allows simple operation of complex functions.

2-2. Parameters:

1. Display, 4.3" color LCD, (resolution 480X320)
2. Sonar colors: standard (4 colors, 32 levels), gray, reverse, inverse, green etc
3. Display Mode: Standard, bottom zoom, dual displays, large numbers, graphics, version information, simulation

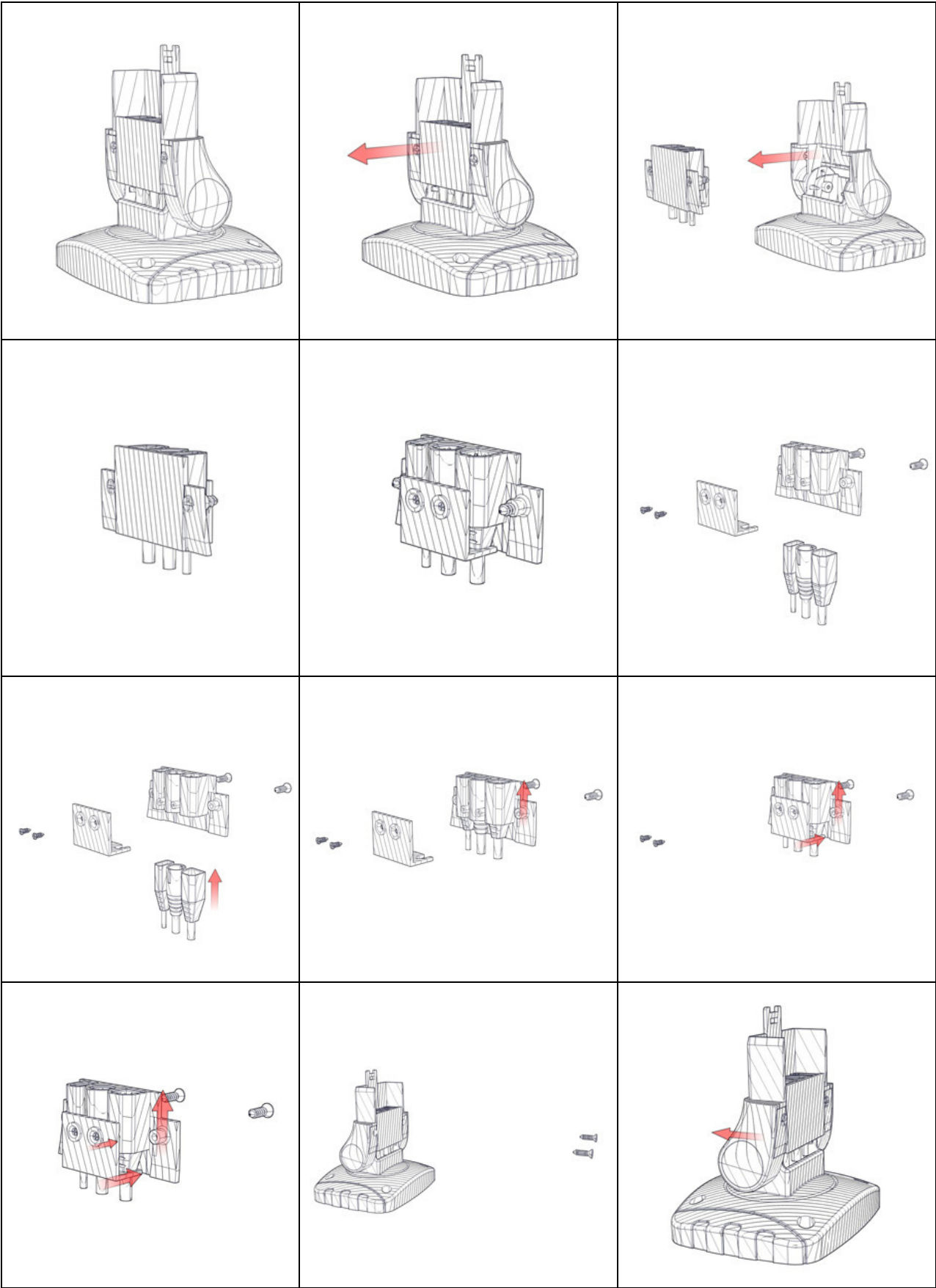
4. Auto Mode: Auto range, auto sensitivity
5. Display waveforms: Anyway to set, display the waveform will not be interrupted
6. Interference suppression: automatic suppression of interference signals with frequency unwanted signal Interference suppression
7. Cursor operation: for any point on the screen depth measurement
8. Depth migration: $\pm 5\text{m}$
9. Alarm mode: fish alarm, depth alarm, battery alarm, temperature alarm
10. Resolution: 0.022 m
11. Screen split: vertical
12. Frequency: 83/200KHZ dual
13. Depth range: 0 to 100 meters
14. Chart speed: 1 to 10
15. Background colors: white, blue, black
16. Output power: 300W
17. Power supply: DC 8.5V~24V
18. Working Environment: 0 to 50°C, relative humidity below 95%
19. Storage Temperature: 20-70°C
20. Degree of protection: IP64
21. Weight: 960g

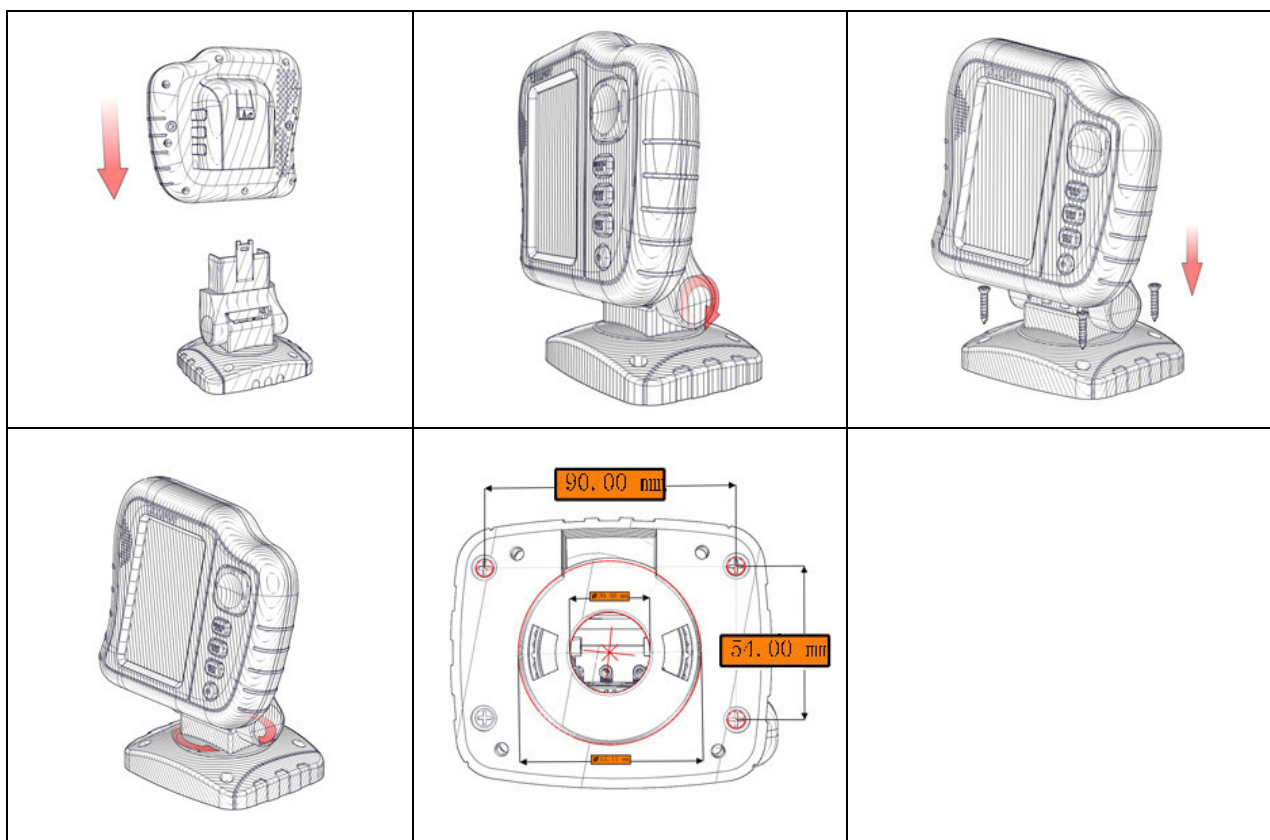
3. Installation

3-1. Installation Summary

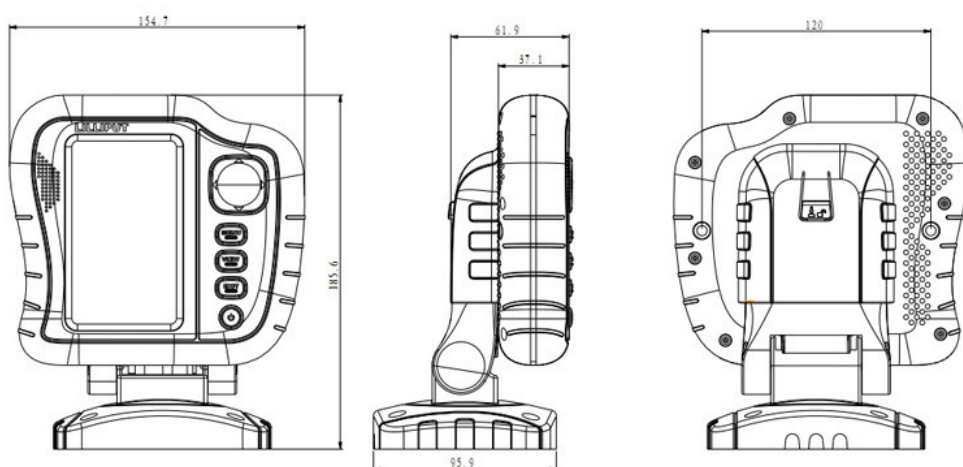
- Avoid direct sunray, avoid impact shock.
- The humidity and temperature condition of the install place should meet the specifications.
- The equipment should install in a well ventilated place, and keep away from the air pipe and air vent.
- Install the equipment in a sufficient room is recommended, therefore prepare enough room for the cables and make it easy to carry out inspection and service.
- Keep the equipment away from electromagnetic radiation device, such as motor and generators.

3-2. Whole Device Installation





3-3 Main Device Installation



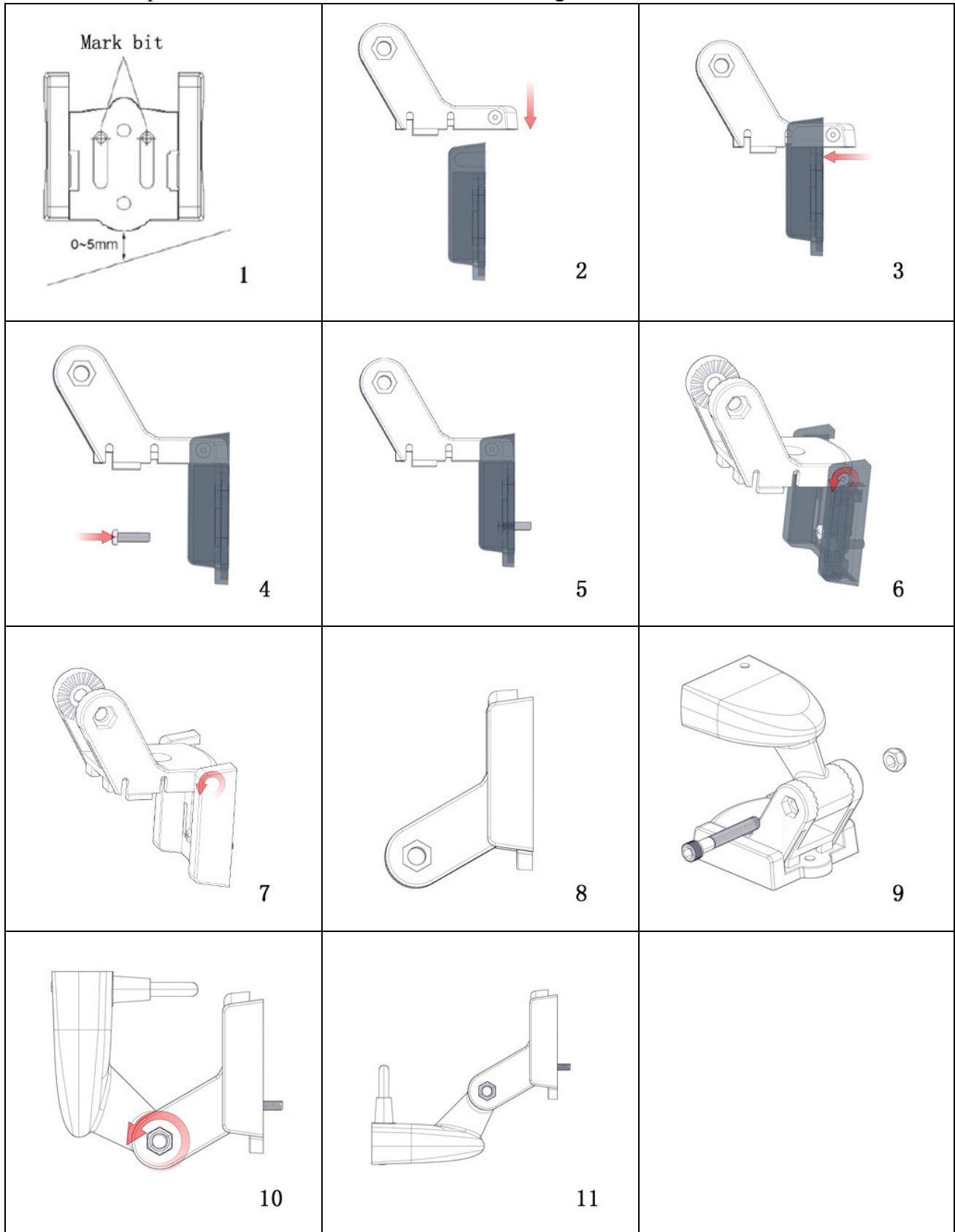
3-4. Transducer Installation:

Transducer is a precious front signal sensor. It must transport and install with care, no heavy pressure, fall off or working in the air. Painting and parasite should keep away from the surface of the transducer.

The mounting location is very important and will affect the measure accuracy of the transducer directly. It is recommended to install it on the bilge where the surface is smooth and flat. Keep the transducer far away from propeller or pipelines which generate turbulent water. Keep the surface of the transducer horizontal, use guide plate to guarantee gentle water flows if the bilge is not flat. Do not expose the transducer into the air under any circumstances.

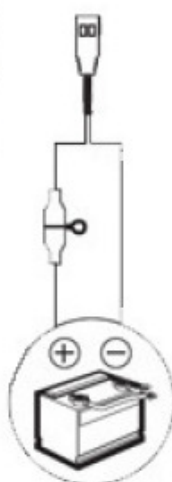
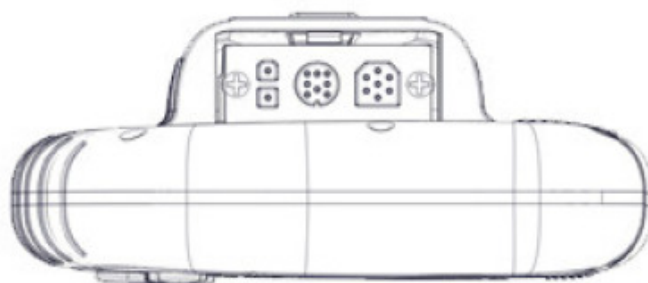
Mark and drill mounting holes:

- 1) Ensure that ship at the horizontal position, and the hull does not tilt.
- 2) Holding the transducer bracket template for the boat to mark the two mounting holes.
Center of two holes should be parallel to the surface. Ensure that the bottom of the template and the distance between the lower edge of the beam is about 0 ~ 5 mm.

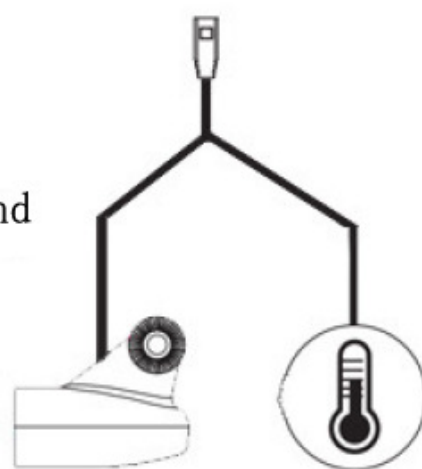




3-5. Device Cable Interfaces



Power



Transducer Temperatur

4. Display Window

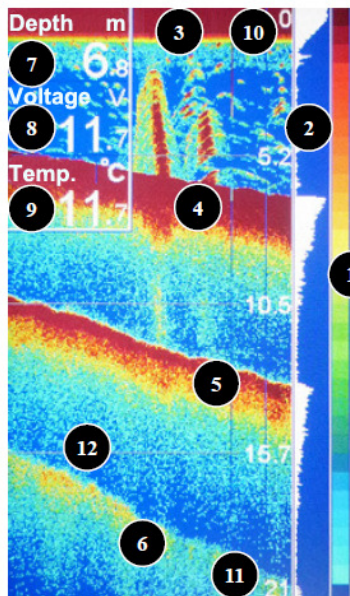
4-1. Title Screen

Turn on your device F403S by pressing the POWER key. The title screen is display until the F403S begins operation. The device will begin Normal or Simulator operation, depending on your choice.

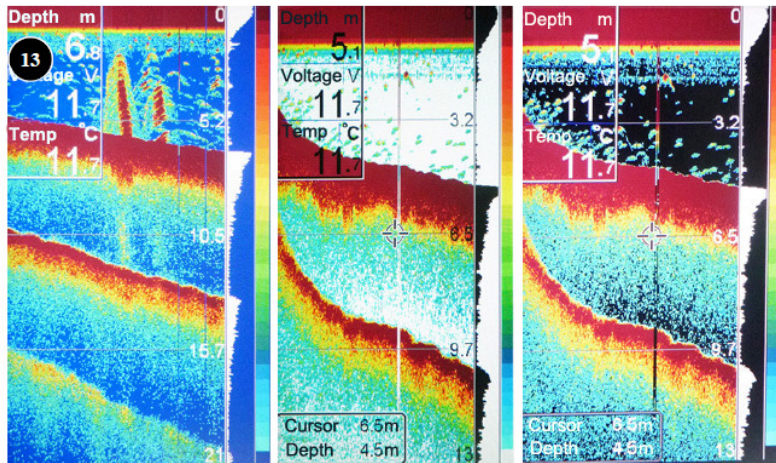
Press MENU to begin Simulator operation. The simulator data is available under this mode; however the recording function is unavailable under simulator mode. Otherwise it will enter normal operating mode. In normal mode there, enter the last visit of the view interface.



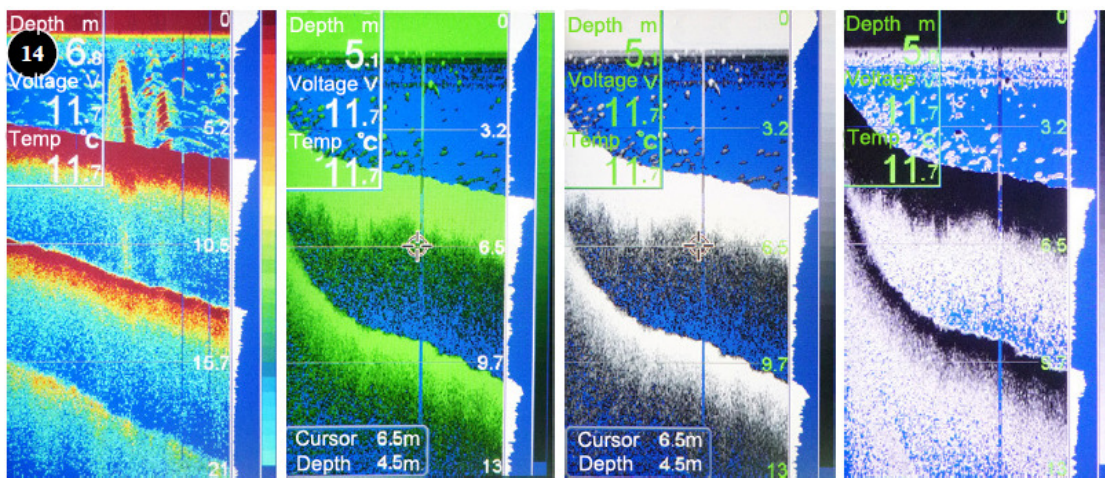
4-2. Sonar View



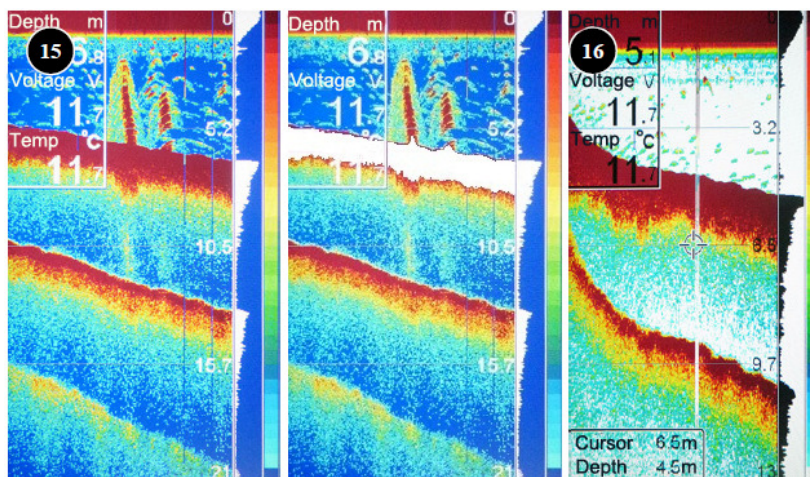
1. Sonar Color Bar: Color spectrum indicating low to high sonar intensity returns, where red indicates high intensity and white indicates low intensity, default value: standard.
2. Real Time Sonar Window: Display the real time sample data, the display mode can be changed, default value: waveforms.
3. Water Surface Noise: The noise waveforms from Sonar returns.
4. Sonar Return: First sonar return, it indicates depth of the water at present.
5. Second Sonar Return: When the sonar signal bounces between the bottom and the surface of the water and back again. Use the appearance of the second return to determine bottom hardness. Hard bottoms will show a strong second return, while soft bottoms will show a very weak one or none at all.
6. Third Sonar Return: When the sonar signal bounces between the bottom and the surface of the water and back again.
7. Window 1: Water depth, can set depth alarm, default value: off.
8. Window 2: Input Voltage, can set low battery alarm, default value: off.
9. Window 3: The temperature display, the current location of underwater transducer temperature, the current water temperature alarm can be set; set off according to user needs or display, default value: off.
10. On the range: the range of display settings, you can manually set, default value: 0
11. The following range: Display settings under the scope, you can manually set, default value: auto.
12. Depth contours: with three lines to the screen is divided into several equal portions, you can also turn off the menu, default value: off
13. Background color: blue, white, black. Different background colors, font colors displayed are not the same, default value: blue.



14. Sonar Color: Standard, green, gray, reversed. User-set according to personal habits, default value: standard.

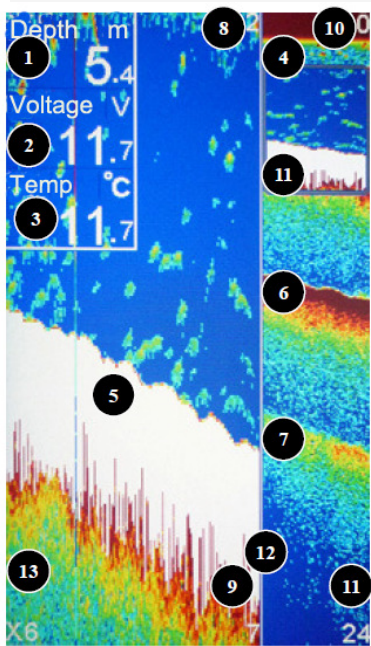


15. Underwater view: standard, white line. User-set according to personal habits, default value: white lines.



16. Cursor measurements: the screen does not pop up in any menu, press the four arrow keys in the "left" "right" measure. Measurement will pause the screen brush chart, four arrow keys can be measured on the target. Measurement data is always displayed at the bottom left.

4-3. Sonar Zoom View



1. Window 1: bottom of the depth, you can set the alarm current depth, degree, can be the rootAccording to the user needs to set off or display, default value is: open.

2. Window 2: The current input voltage, current-voltage alarm can be set; can display the user needs to set off or, by default is: Off.

3. Window 3: The temperature display, the current location of underwater transducer temperature, the current water temperature alarm can be set; set off according to user needs or display, default value: off.

4. Water surface noise: often referred to as blind spots, is the transducer emission arising from the waveforms.

5. Sonar Return: first sonar return, referring to the current bottom of the depth. (The bottom number is based on the echo transducer power, transmitting and receiving mode, and the depth of the underwater geology, are not there are several echoes)

6. Second Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface; use of the second return appearance to determine the hardness of the bottom; hard bottom will show the first sonar return stronger than the second one; and soft bottom will display the first sonar return weaker than the second one.

7. Third Sonar Return: When sonar signals bounce back again between the bottom and the bottom surface.

8. Amplified on the scope, the scope to take on the value of real-time changes, with the bottom and change. Bottom with constant amplification factor is also a relationship.

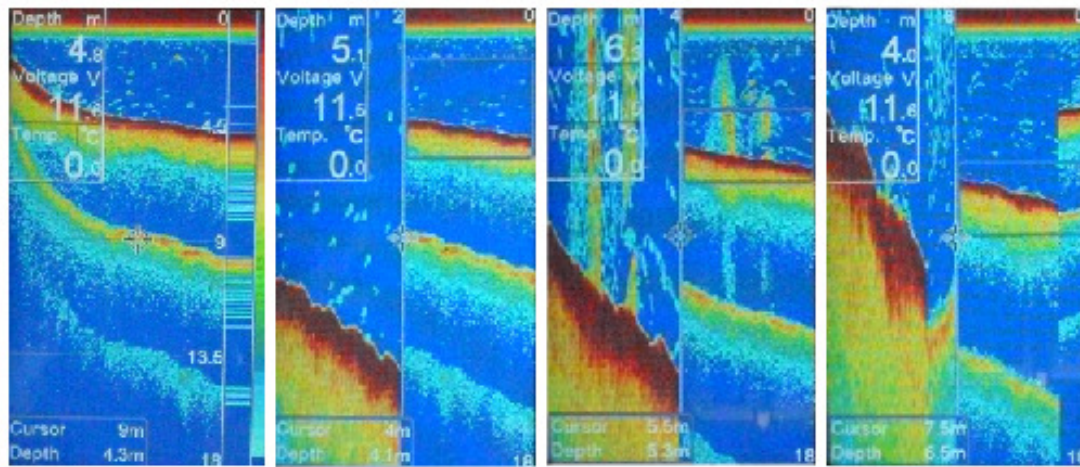
9. Amplified under the scope, the scope to take on the value of real-time changes, with the bottom and change. Bottom with constant amplification factor is also a relationship.

10. On the range: in the enlarged display screen on the range of values: 0, is fixed can not be adjusted.

11. The following range: Display settings under the scope, you can manually set, default values are: auto.

12. Screen separator: according to user habits can be set to low, medium or wide, default value: in;

13. Magnification: Users can set their own needs X2, X4, X6, X8 magnification several routes.



X2

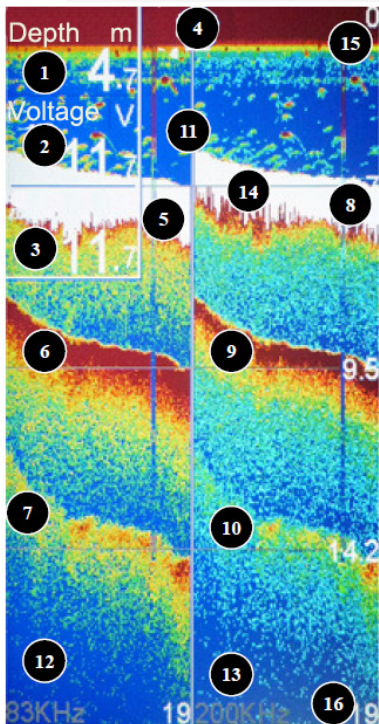
X4

X6

X8

4-4. Dual Sonar View

1. Window 1: Bottom of the depth, you can set the alarm current depth, degree, according to the user needs to set off or display, default value is: open.
2. Window 2: The current input voltage, current-voltage alarm can be set; can display the user needs to set off or, by default is: Off.



3. Window 3: The temperature display, the current location of underwater transducer temperature, the current water temperature alarm can be set; set off according to user needs or display, default value: off.

4. Water Surface Noise: often referred to as blind spots, is the transducer emission arising from the waveforms.

5. 83KHz Sonar Return: first sonar return, referring to the current bottom of the depth.

6. 83KHz Second Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface; use of the second return appearance to determine the hardness of the bottom; hard bottom will show the first sonar return stronger than the second one; and soft bottom will display the first sonar return weaker than the second one.

7. 83KHz Third Sonar Return: When sonar signals bounce back again between the bottom and the bottom surface.

8. 200KHz Sonar Return: first sonar return, referring to the current bottom of the depth.

9. 200KHz Second Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface; use of the second return appearance to determine the hardness of the bottom; hard bottom will show the first sonar return stronger than the second one; and soft bottom will display the first sonar return weaker than the second one.

10. 200KHz Third Sonar Return: When sonar signals bounce back again between the bottom and the bottom surface.

11. Screen separator: separator screen dual screen when viewed with the sonar is not the same

magnification, this separator is fixed split screen. Size is not automatically set.

12. 83KHz frequency sonar: the instructions on the left area of 83KHz frequency sonar.

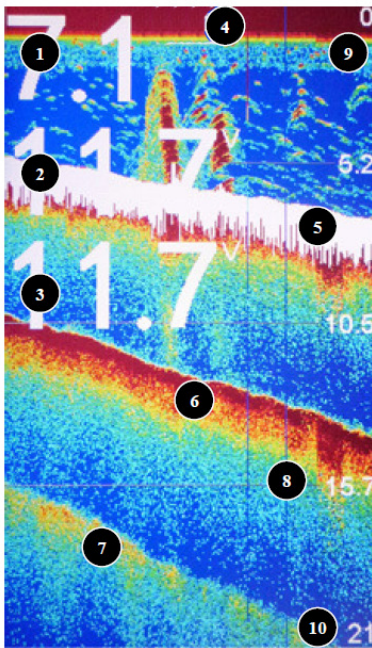
13. 200KHz frequency sonar: indicates that the right area to 83KHz frequency sonar.

14. Depth contours: with three lines to the screen is divided into several equal portions, you can also turn off the menu, default value: off.

15. On the range: the range of display settings, you can manually set, default value: 0 (83KH z is the simultaneous adjustment with no separation of 200KHz).

16. The following range: Display settings under the scope, you can manually set, default values are: Auto (83KHz and 200KHz is the simultaneous adjustment is not separated).

4-5. Big Digital View



1. Window 1: The bottom of the depth, the depth can be set to the current degree of alarm can be set according to user needs, or show off, default value is: open.

2. Window 2: The current input voltage, current-voltage alarm can be set; can display the user needs to set off or, by default is: Off.

3. Window 3: The temperature display, the current location of underwater transducer temperature, the current water temperature alarm can be set; set off according to user needs or display, default value: off.

4. Water surface noise: often referred to as blind spots, is the transducer emission arising from the waveform.

5. Sonar Return: first sonar return, referring to the current bottom of the depth.

6. Second Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface; use of the second return appearance to determine the hardness of the bottom; hard bottom will show the first sonar return stronger than the second one; and soft

bottom will display the first sonar return weaker than the second one.

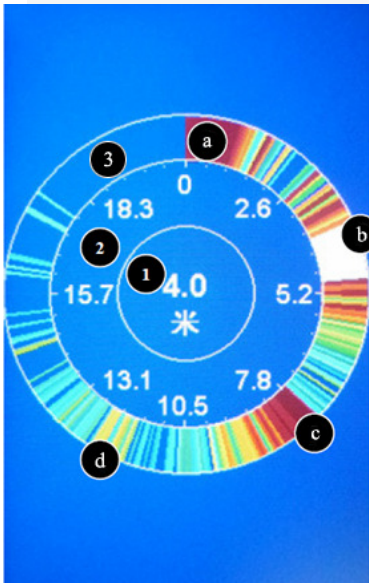
7. Third Sonar Return: When sonar signals bounce back again between the bottom and the bottom surface.

8. Depth contours: with three lines to the screen is divided into several equal portions, you can also turn off the menu, default value: off

9. On the range: the range of display settings, you can manually set, default value: 0 (83KH z is the simultaneous adjustment with no separation of 200KHz).

10. The following range: Display settings under the scope, you can manually set, default values are: Auto (83KHz and 200KHz is the simultaneous adjustment is not separated).

4-6. Circular View



1. The first circle: underwater depth, you can set the alarm current shades.

2. The second circle: scale, scope and under the scope of which can be manually set, by default, the range of values: 0; next range is: Automatic.

3. The third circle: water surface noise, underwater echo, the second bottom echo, echo the bottom three:

a. the water surface noise: often refers to blind spots, the transducer emission arising from the waveform.

b. Sonar Return: first sonar return, referring to the current bottom of the depth.

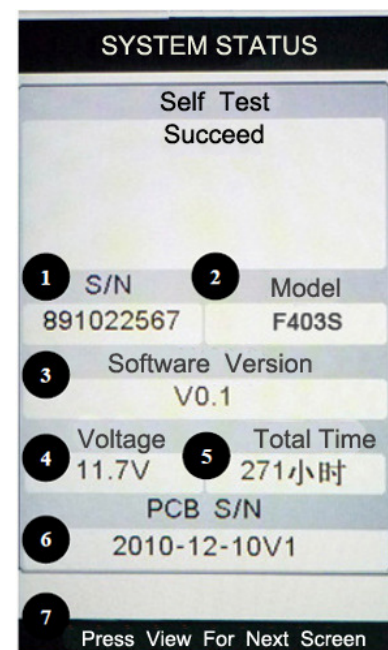
c. Second Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface; use of the second return

appearance to determine the hardness of the bottom; hard bottom will show the first sonar return stronger than the second one; and soft bottom will display the first sonar return weaker than the second one.

d. Third Sonar Return: When the sonar signals bounce back again between the bottom and the bottom surface.

4-7. System Status

1. Version of S / N: number of current host body. Host factory number, version number is fixed;
2. Model: Displays the current instrument model.
3. Software Version: current host software version number. However, software upgrade, version number will change;
4. Voltage: The voltage is the voltage when the input value. The input voltage changes with the current changes;
5. Total Time: This is the accumulate operation time from the manufactory date till now.
6. PCB S/N: design date of hardware PCB board.
7. Indication message: Press “VIEW” to shift interfaces.



5. Key Button Functions

F403S user interface consists of a set of easy work with various on-screen views and menus to give you flexibility and control over your fishing experience. Your control heads has the following keys:

1. **4-WAY Cursor Control**
2. **MENU**
3. **VIEW**
4. **EXIT**
5. **POWER**

① 4-WAY Cursor Control



Four-in-one multi-function keys: composed of up / down, left / right arrow keys. The four keys have different functions under different menus.

Up / Down key: up and down shift of the cursor in the menu.

Left/Right key:

- A. Selecting main items in the main menu.
- B. In other sub-menu is to achieve choice, value addition and subtraction.
- C. In the absence of pop-up menu screen, press the left or right button to achieve the measurement function, press the EXIT or VIEW key to release the current function.

② MENU



MENU key: to access the menu system. Boot Options menu - to view each option in the menu. In the boot LOGO, if you press the MENU button then the host will start the simulation system. In the rest of the system screen, press the MENU button will start the first pop-up shortcut menu for the current interface; if not disappear in the current menu; press the MENU button before the system will enter the main menu. All menu operated by the "Four-in-one multi-function key" in the up / down or left / right. In the main menu, press the MENU key is to exit the menu. Under normal circumstances: the up / down key is for selecting, the left / right key is for setting.

③ VIEW



VIEW key: to achieve (Sonar View, Sonar Zoom View, Dual Screen View, Large Number View, Circular View, System Status Windows) the windows switch. And the data of windows will refresh when switch.

④ EXIT



EXIT key to exit in a single-level menu; to back to last menu in a multi-level menu; to back to the front window when the menu window disappeared (opposite function with VIEW).

⑤ POWER



POWER key:

- A. Press to pop-up "light" / "background color" shortcut menu, and then setting through four-in-one multi-function key;
- B. Press the power button of 2S device. The device is powered on when pressing the POWER button. When the device is running, press the POWER key, the screen will display the message "Power off Countdown" over the countdown, the host immediately shut down and then release button; otherwise release after the operation is disabled.

6. The Menu System

All multi-level or equivalent menu in the menu when pops up, to select through up / down key of "Four-in-one multi-function key"; and then adjust through left / right key. Short press and long-keep press for Left / Right adjustment. Short press to make step size adjustment effective immediately; long-keep press to make value adjustment effective after release.

6-1. Main Menu:

1. Sensitivity :1-20 levels, short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. This feature is to adjust the level and width of sonar colors. The default value is "10".

2. Upper Range:

- A. "m" as unit: 0 to 397 levels, step size is 1, and the minimum interval with lower range is 3m;
- B. "feet" as unit: 0 to 1302 levels, step size is 1, and the minimum interval with lower range is 10 feet;

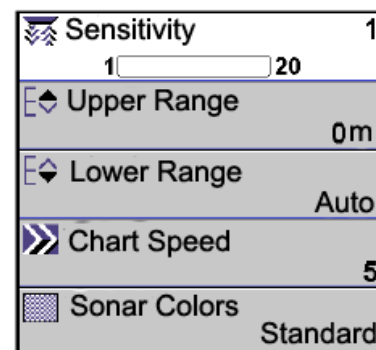
- C. "fathom" as unit: 0-216 levels, step size is 1, and the minimum interval with lower range is 2 fathoms;

Short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. This feature shows location on the screen. The depth of upper range is less than lower range, and different depth under different units. The value of upper range is fixed to 0 when in the window of single transducer plus zoom, and default as 0 when in another window. Menu will pop-up through either main menu or shortcut key.

3. Lower Range:

- A. "m" as unit: 3 to 400 levels, step size is 1, and the minimum interval with lower range is 3m;
- B. "feet" as unit: 10 to 1312 levels, step size is 1, and the minimum interval with lower range is 10 feet;
- C. "fathom" as unit: 2-218 levels, step size is 1, and the minimum interval with lower range is 2 fathoms;

Short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. This feature shows location on the screen. The depth of upper range is less than lower range, and different depth value



under different units. Value default as 0, measuring range adjustment according to the bottom of water. Menu will pop-up through either main menu or shortcut key.

4. Chart Speed :1-10 levels, short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. This feature is to adjust the refreshing speed of sonar signal chart. The default value is "5".
5. Sonar Colors: standard (composed of 4 colors and 32 dominant hues), grayscale, reversal and green; value default as "standard."

6-2 Detailed MENU

A. The alarm MENU

1. The upper depth alarm:

“m”: Off, 1-50 levels, step size is 1, and the minimum interval with lower depth is 1m;

“feet”: Off, 1-100 levels, step size is 1, and the minimum interval with lower depth is 2 feet;

“fathom”: Off, 1-50 levels, step size is 1, and the minimum interval with lower depth is 1 fathom;

Short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. This feature shows location on the screen. The upper depth alarm is less than lower depth alarm, and different depth value under different units. Value default as "off".

2. The lower depth alarm:

“m”: Off, 3-400 levels, step size is 1, and the minimum interval with lower depth is 1m;

“feet”: Off, 10-1312 levels, step size is 1, and the minimum interval with lower depth is 2 feet;

“fathom”: Off, 3-218 levels, step size is 1, and the minimum interval with lower depth is 1 fathom;

Short press to make step size adjustment effective immediately; long-keep press to make step size adjustment effective after release. The upper depth alarm is less than lower depth alarm, and different depth value under different units. Value default as "off".

3. Fish ID Alarm:

If you set the large fish alarm, alarm will make sound when large fish detected. Value default as "off".



4. Low voltage alarm: off, 8.5v-13v interval of 0.5v as a step size. After setting the alarm, if the voltage is less than the current set value, it will be in red font and flashing on the screen.

	Alarm			
Upper Depth				Off
Lower Depth				Off
Fish ID Alarm				
Low Batter				Off
Temp.Alarm				Off
Alarm Type				Low

Value default as "off"(and the voltage alarm is disable).

5. The temperature alarm: Off, 1 °C ~ 50 °C interval of 1 as a step size. After setting the alarm, if the temperature is less than the current set value, it will be in red font and flashing on the screen. Value default as "off".
6. Alarm types: low, medium and high. For alarm levels and alarm volumes, different volumes in different levels when operating. Value default as "low".

B. Sonar

1. Bean Select: 200K, 83K, 200K/83K mixed; default value: 200K.

2. Surface Clutter: 1-20 levels, step size: 1, this feature is to adjust the sonar return signal of transducer. The bigger value, the stronger and wider of the sonar return; value default as "10".

3. Fish ID: On / Off, the fish can be detected when the feature is on, otherwise, only shows sonar information, not the fish ID information. Value default as "Off".

4. Fish ID Sensitivity: 1-10 levels, step size: 1, the higher sensitivity, the more precise data for judge. to determine the more detailed data. Value default as "5".

5. Real-time Window: Off, Standard, Wave; this feature shows the real times of current sonar return. Users can set visual graphical modes as their favors: Standard (to distinguish sonar intensity from color levels), Wave (to show width and intensity of sonar return more visual with waveforms); Value default as "ON".

6. Bottom View: Standard, White Line; Users can set visual graphical modes as their favors . Value default as "White Line".

7. Zoom Width: Low, Medium, High; this feature is available in "Zoom View" mode, Users can set visual graphical modes as their favors . Value default as "Medium".

8. 83KHz Sensitivity: -10 to +10 in step size of 1, adjust manually as the needs. Value default as "0".

9. Depth Line: On / Off, value default as "On".

10. Noise filter: Low, Medium, High, value default as "Low".

11. Water type: Fresh, Salt. For the river and sea water, different quality with different density.

12. Color bar: 4 colors and 32 kinds of dominant hues to distinguish different sonar signal strength. Changed according to different sonar color.

Sonar	
Bean Select	200KHz
Surface Clutter	10
Fish ID	Off
Fish ID Sen	5
Rts Window	Wave
Bottom View	White Line
Zoom Width	Medium
83KHz Sensi	10
Depth Line	On
Noise Filter	Low
Water Type	Salt
Color Bar	On

C. Setup

Depth Units	Meter
Temp.Units	°C
Depth Offset	0 m
Temp.Offset	0°C
Reset	
Menu Timer	15 S
Select Readouts	
Language	English

1. Depth Units: Meter, Feet, Fathom; value default as "Meter".
2. Temperature Units: °C, °F; default as "°C".
3. Depth Offset: -5 to 5, is divided into 10 grades, step size is 1; change as different ship's drafts. Value default as "0".
4. Temperature Offset: -5 to 5, is divided into 10 grades, step size is 1; adjust manually when the detected and the actual temperature are different. Value default as "0".
5. Reset: No, Yes.
6. Menu Timer: 5-30, divided into 25 grades; the pop-up menu will exit automatically when the timer pass the current setting value; value default as "15" seconds.
7. Select Readouts: window 1, window 2 and window 3, with: Off, Voltage, Depth and Temperature for each one.

Default: Window 1: "Depth"; Window 2: "Off"; Window 3: "Off".

Setting through left and right key of the "Four-in-one multi-function key". When the Depth is available, the screen will flashing if no current bottom signals. When the Voltage Alarm is on, the voltage display window will flash in red characters if the current input voltage value is less than the voltage alarm value.

Select Readouts
Readout 1 ◀ Depth ▶
Readout 2 Off
Readout 3 Off

8. Language: Chinese & English; default as "Chinese".

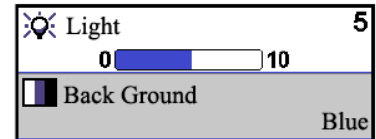
D. View

1. Sonar View: On / Off, current screen shows only the selected sonar return of "sonar frequency". Default as "On".
2. Sonar Zoom View: On / Off, current screen shows only the selected sonar return of "sonar frequency". The screen is divided into left and right parts, the parts size can be set manually, as well as the zoom values. Default as "On".
3. Dual Sonar View: On / Off, dual windows for the screen shows the sonar signal return of transducer. Default as "On".
4. Big Digit View: On / Off, current screen shows only the selected sonar return of "sonar frequency", to see depth data, voltage and temperature of user's location easily. Default as "On".
5. Circular Flas View: On / Off, current screen shows only the selected sonar return of "sonar frequency" with the original status. Default as "On".
6. System Version: On / Off, current screen shows system information. Default as "Off".

View
Soner View On
Soner Zoom View On
Dual Soner View Off
Big Digit View Off
Cricular Flas View On
System Edition Off

6-3 Brightness Adjustment

1. Brightness: 0-10 levels, step size is 1, through the shortcut key to pop-up shortcut menu, and then adjust the brightness through the left and right keys of "Four-in-one multi-function key". It's effective immediately through short press and long-keep press.
2. Back Ground Color: blue, white, black, users can set as their favors, value default as "Blue".



7. PARAMETER

Panel	4.3" TFT LCD (resolution480X320);	
Input voltage	DC 9V~40V	
Frequency	83K/200K	
Transmit power	300W	
Range	0-400m to 1 in steps of manually setting any	
Accuracy	Full accuracy±1.0%	
Interference suppression	Yes	
Automatic range	Yes	
Automatic sensitivity	Yes	
The cursor measurement	Yes	
Simulations show that	Yes	
Fish identification	Yes	
Display mode	Sonar View, Sonar Zoom View, Double Sonar View, Big Digit View, Circular View, Version Information, Simulation	
Depth excursion	±5m	
Shallow water alarm	0.4~30m	
Depth alarm	Upper depth	1~50m
	Lower depth	2~400m
Low voltage alarm	8.5~13V	
Alarm type	Low, medium ,high	
Width Enlarge	Narrow, medium and wide	
Chart speed	1~10	
Emission rate	Fastest 20T / s	
Echo color	32 grade 4 colors	
Operating Temperature	-10℃~50℃	
Safety Grade	IP64	
Protection	Over-voltage, over current, opposite polarity protection	
Installation	Desktop, Hanging	
Dimension(LWD)	185.6×154.7×61.9mm	
Weight	600g (without transducer)	

8. STANDARD ACCESSORIES

Number	Name	Quantity	Number	Name	Quantity
1	200K/83K Probe 	1 pcs	9	retreat line holder 	1 pcs
2	Base bracket screws (KA4x22MM) 	8 pcs	10	Jack import slot 	1 pcs
3	Jack import slot screws(KB3×9) 	2 pcs	11	Device base 	1 pcs
4	Line holder screws (KB2.3×6) 	2 pcs	12	Probe line holder 	1 pcs
5	Probe rotation axis 	1 pcs	13	Hull over the line of holes 	1 pcs
6	Probe-like body mounting bracket 	1 pcs	14	Probe holder 	1 pcs
7	Probe holder 	1 pcs	15	User manual 	1 pcs
8	Power cord 	1 pcs	Note: due to constant effort to improve products and product features, specifications may change without notice.		